

Syllabus

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Department of Mathematical and Statistical Sciences Marquette University

Syllabus Spring 2025

Course: MATH 2780 Introduction to Regression and Classification

Time: TuTh 11:00 am - 12:15 pm

Location: Cudahy 128

Office Hours: TuTh 12:15 pm – 1:15

Instructor: Daniel Rowe, Ph.D. daniel.rowe@marquette.edu

Office: Cudahy 313

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Course Description From The University Bulletin

MATH 2780 Introduction to Regression & Classification 3 cr. hrs.

Basic concepts of supervised learning, simple linear regression, multiple linear regression, diagnostic analysis, model selection, logistic regression, classification and regression trees (CART), random forest and use of statistical software R.

Prereq: MATH 1700 or an equivalent introductory statistics course.

Drop Date: Last day without a W 1/21/2025 and with a W 4/11/25.

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MATH 2780. Introduction to Regression & Classification. 3 cr. hrs.

Course Grading

Homework:	50%
Project 1: (Ch. 1-4, Feb 13)	15%
Project 2: (Ch. 5-8, Mar 20)	15%
Final Project: (Ch. 9-12, May 7)	20%

MATH 2780 Scale:
92% - 100% (A)
88% - 92% (A-)
86% - 88% (B+)
80% - 86% (B)
78% - 80% (B-)
76% - 78% (C+)
70% - 76% (C)
68% - 70% (C-)
66% - 68% (D+)
60% - 66% (D)
56% - 60% (D-)
< 56% (F)

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Chapters:

1. A Review of Basic Concepts
2. Introduction to Regression Analysis
3. Simple Linear Regression
4. Multiple Regression Models
5. Principles of Model-Building
6. Variable Screening Methods
7. Some Regression Pitfalls
8. Residual Analysis
9. Special Topics in Regression
10. Time Series Modeling and Forecasting
11. Principles of Experimental Design
12. The Analysis of Variance for Designed Experiments

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Questions?